

PRESS RELEASE

SENIOR AEROSPACE BWT INVESTS IN STRATASYS FDM 3D PRINTERS TO PRODUCE AIRCRAFT PARTS FOR OEMs

Installation of Stratasys 3D printers at Senior Aerospace BWT used in robust, repeatable and traceable production process for aerospace.

Company seeing savings of up to 75% on certain parts, compared with traditional manufacturing.

Baden Baden, Germany, and London, UK, March 29, 2021 – UK-based [Senior Aerospace BWT](#), part of Senior plc, an AS/EN/JISQ 9100:2016 accredited global manufacturer of ultra-lightweight, low-pressure air distribution systems for aerospace, has enhanced its capability in additive manufacturing by installing Stratasys 3D printers to spearhead the design, production and deployment of 3D-printed interior aircraft parts for its customers.

Located at the company's Macclesfield, Cheshire site, Senior Aerospace BWT is equipped with two industrial-grade [Stratasys](#) (NASDAQ: SSYS) [Fortus® 450mc 3D printers](#), and has undertaken a rigorous testing and qualification program of Stratasys' aerospace-grade [ULTEM™ 9085 resin](#) on behalf of its key customers. Having completed and approved the necessary qualification



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reports, Senior Aerospace BWT is now fully capable of 3D printing interior aircraft components to meet the needs of aircraft manufacturers*. The company has a global customer base covering regional, military, private jet and rotorcraft markets – with 3D-printed components for use in low pressure air ducting systems and air handling in aircraft interiors.

Darren Butterworth, CEO, Senior Aerospace BWT, comments: “Senior Aerospace BWT is now an industry leader in driving the increased adoption of thermoplastic 3D-printed parts for aircraft, enabling our customers to benefit from the significant benefits that this technology delivers. After two years of intensive R&D work, we have qualified the associated products and processes, which enable us to produce flight-ready parts quickly and cost-effectively for

our customers. We now have the capability of deploying a robust, accurate, repeatable and traceable process – which is what the industry demands.”

Significant savings in component cost, weight and lead times



Producing components in Stratasys' aerospace-grade ULTEM™ 9085 resin ensures a robust, repeatable and traceable production process for BWT's customers. Pic shows development component used in low pressure air ducting systems

Senior Aerospace BWT is seeing significant savings in terms of component weight, cost and lead-time when using Stratasys FDM®-based additive manufacturing in place of traditionally sourced aluminum. For certain parts, savings are as much as 75% – particularly for small order quantities.

“In many cases, minimum order quantities for off-the-shelf aluminum parts make traditional manufacturing simply unviable

when we may only need a handful for one aircraft,” explains Butterworth. “If you add to that the small, complex geometries of some parts, it just does not warrant the cost and time to CNC machine them in aluminum.”

Key to the company's success with additive manufacturing has been Stratasys' aerospace-grade materials, which helped simplify the qualification and material characterization process.

With experience in additive manufacturing spanning 10 years, Senior Aerospace BWT first began investigating the commercial viability of Stratasys FDM 3D printing for interior aircraft parts over four years ago via a technical partnership with a service bureau. Through the collaboration, Senior Aerospace BWT delivered its first duct incorporating a 3D printed part for flight use on regional passenger jets in 2018. Since then, the company has supplied its customers with hundreds of lightweight, flight-ready interior aircraft parts using FDM, often incorporating highly complex geometries. The company's success with FDM laid the foundation for the investment in its own in-house capability via Stratasys' local partner, [Tri-Tech 3D](#).

Looking ahead, Senior Aerospace BWT plans to extend its additive manufacturing services offering into other industries beyond aerospace, such as automotive and defense. The company expects to boost capacity with the installation of additional Stratasys Fortus 450mc 3D printers, a key part of its strategic objective to invest in fluid conveyance product

development and manufacturing processes to help facilitate growth through innovation and continually enhance returns on investment.

**Certified ULTEM 9085 meets more stringent test criteria and retains material traceability required by the aerospace industry. Certificates of Analysis for both raw material and filament are supplied, documenting test results and identification to match filament manufacturing lot number to raw material lot number. This allows traceability from printed part back to raw material.*

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Stratasys (NASDAQ: SSYS) is leading the global shift to additive manufacturing with innovative 3D printing solutions for industries such as aerospace, automotive, consumer products and healthcare. Through smart and connected 3D printers, polymer materials, a software ecosystem, and parts on demand, Stratasys solutions deliver competitive advantages at every stage in the product value chain. The world's leading organizations turn to Stratasys to transform product design, bring agility to manufacturing and supply chains, and improve patient care.

To learn more about Stratasys visit www.stratasys.com, the Stratasys [blog](#), [Twitter](#), [LinkedIn](#), or [Facebook](#).

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About Senior Aerospace BWT

Senior Aerospace BWT is recognized as a world leader in the design and manufacture of ultra-lightweight low-pressure air distribution systems. It provides systems for fixed wing and rotary wing aircraft across all market sectors, for both commercial and military applications.

Find out more at the Senior Aerospace BWT [website](#), [Twitter](#) and [LinkedIn](#) pages.

About Senior plc



Senior is an international manufacturing group with operations in 13 countries. It is listed on the main market of the London Stock Exchange (symbol SNR). Senior designs, manufactures and markets high technology components and systems for the principal original equipment producers in the worldwide aerospace, defense, land vehicle and power & energy markets. Further information on Senior plc may be found at: www.seniorplc.com